

**CLAIMS:**

What is claimed is:

1. 1. A method for dynamically updating a thermal profile of a processor of a data processing system, comprising:

2. 3. modifying an advance configuration program interface/advanced power management (ACPI/APM) code of said data processing system to dynamically read said thermal profile from a patch file and update an associated temperature control function;

4. 5. associating data of said thermal profile with a BIOS of said data processing system via a FLASH utility

2. 2. The method of Claim 1, further comprising providing thermal data within said patch file about an installed processor of said data processing system;

3. 3. The method of Claim 2, wherein said data includes a first temperature at which fans of said system will engage, a second temperature at which temperatures thermal throttling will be utilized, and a third temperature at which said processor shuts down, said method further comprising dynamically controlling temperature control utility of said data processing system to respond according to said data.

1. 4. The method of Claim 3, further comprising:

2. 3. executing a power-on self test (POST) operation for said data processing system;

4. 4. comparing a processor ID with an ID associated with said patch file.

1       5.     The method of Claim 4, wherein, when said processor ID matches said ID of  
2            said patch file, said method further comprises comparing a revision level of said  
3            processor with a revision level provided within said patch file.

1       6.     The method of Claim 5 wherein:

2            responsive to said revision level of said processor matching said revision level  
3            provided within said patch file, completing said POST and operating said data  
4            processing system with thermal profiles of said patch file; and

5            when said revision level of said processor does not match said revision level  
6            provided within said patch file, prompting a user of said data processing system for a  
7            correct patch file for said processor.

8       7.     The method of Claim 6, further comprising prompting a user of said data  
9            processing system for a correct patch file for said processor when said processor ID  
10          does not match said ID of said patch file.

11       8.     The method of Claim 7, wherein said prompting step includes providing a  
12          description of a correct processor ID and revision level to said user during said  
13          prompting step.

14       9.     The method of Claim 8, wherein, when a correct thermal solution is not  
15          provided for said processor, said method comprises operating said data processing  
16          system utilizing a threshold level for operation of said temperature controls, wherein  
17          said threshold level corresponds to a level above which adequate cooling is applied to  
18          any processor by said BIOS irrespective of said processor's recommended cooling  
19          requirements.

1 10. A system for providing updated thermal profiles for a processor of a data  
2 processing system that supports interchangeable processors, said system comprising:  
3 a modified advance configuration program interface/advanced power  
4 management (ACPI/APM) code of said data processing system that dynamically reads  
5 said thermal profile from a patch file within a flash module of said data processing  
6 system and updates an associated temperature control function;  
7 means for associating data of said thermal profile with a BIOS of said data  
8 processing system via a FLASH utility

1 11. The system of Claim 10, further comprising means for providing thermal data  
2 within said patch file about said processor of said data processing system;

1 12. The system of Claim 11, wherein said data includes a first temperature at  
2 which fans of said system will engage, a second temperature at which temperatures  
3 thermal throttling will be utilized, and a third temperature at which said processor  
4 shuts down, said system further comprising means for dynamically controlling  
5 temperature control utility of said data processing system to respond according to said  
6 data.

1 13. The system of Claim 12, further comprising:  
2 means for executing a power-on self test (POST) operation for said data  
3 processing system;  
4 means for comparing a processor ID with an ID associated with said patch file.

1 14. The system of Claim 13, wherein, when said processor ID matches said ID  
2 of said patch file, said system further comprises means for comparing a revision level  
3 of said processor with a revision level provided within said patch file.

1 15. The system of Claim 14 wherein:

2 means, responsive to said revision level of said processor matching said  
3 revision level provided within said patch file, for completing said POST and  
4 operating said data processing system with thermal profiles of said patch file; and

5 means, when said revision level of said processor does not match said revision  
6 level provided within said patch file, for prompting a user of said data processing  
7 system for a correct patch file for said processor.

1 16. The system of Claim 15, further comprising means for prompting a user of  
2 said data processing system for a correct patch file for said processor when said  
3 processor ID does not match said ID of said patch file.

4 17. The system of Claim 16, wherein said prompting means includes means for  
5 providing a description of a correct processor ID and revision level to said user during  
6 said prompting step.

7 18. The system of Claim 17, wherein, when a correct thermal solution is not  
8 provided for said processor, said system comprises means for operating said data  
9 processing system utilizing a threshold level for operation of said temperature  
10 controls, wherein said threshold level corresponds to a level above which adequate  
11 cooling is applied to any processor by said BIOS irrespective of said processor's  
12 recommended cooling requirements.

1       19. A data processing system, comprising:  
2           a flash module having a section for storing temperature control parameters;  
3           means for flashing a BIOS into said flash module; and  
4           means for subsequently flashing temperature control parameters from a patch  
5           file into said section of said flash module without deleting said BIOS, wherein said  
6           BIOS is associated with said parameters to provide efficient operation of components  
7           of said data processing system.

1       20. The flash module of Claim 19, further comprising means for controlling a  
2           temperature of a processor of said data processing system utilizing said BIOS and said  
3           associated parameters within said section of said flash module;

1       21. A computer program product for updating a temperature profile of a processor  
2           of a data processing system, comprising:  
3           a computer readable medium; and  
4           program code on said computer readable medium for:  
5            updating a temperature profile of said processor within a flash module  
6            of said data processing system; and  
7            alerting a POST operation when correct temperature profile file is  
8            provided within said program code.

1       22. The computer program product of Claim 21, wherein further said program  
2           code comprises a file ID corresponding to a processor ID and a revision level  
3           indicator, wherein further said program code automatically installs data corresponding  
4           to said temperature profile into a flash module of said data processing system when  
5           said file ID matches a processor ID of a processor being utilized within said data  
6           processing system and said revision level matches a revision level of said processor.